

AIR MINISTRY.

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DIRECTORATE OF CIVIL AVIATION.

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HALF-YEARLY REPORT ON THE PROGRESS  
OF CIVIL AVIATION.

(October 1st, 1921—March 31st, 1922.)

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Presented to Parliament by Command of His Majesty.

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## INTRODUCTION.

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In accordance with the announcement made at the Air Conference held in February, 1922, a permanent Civil Aviation Advisory Board, to take the place of the Advisory Committee on Civil Aviation, of which Lord Weir was Chairman, has been established under the Chairmanship of the Under-Secretary of State for Air "to advise generally on the development of Civil Aviation and to report upon any specific point which may from time to time be referred to the Board by the Secretary of State for Air." In addition to the Director-General of Supply and Research and the Director of Civil Aviation, representatives to serve on this Board have been nominated by the General Post Office, Royal Aeronautical Society, Air League of the British Empire, Royal Aero Club, Society of British Aircraft Constructors, Lloyd's, Association of the British Chambers of Commerce, Federation of British Industries, Accident Offices Association, and the Institute of Transport. Arrangements have been made for the representation of the Dominions and Colonies on questions which concern them. The Secretary of State for Air has referred to the Board, as the first subject on which he desires its recommendations, the question of the cost and practicability of the establishment of Imperial air mail services.

This Half-Yearly Report—the sixth of the series\*—covering the period 1st October, 1921, to 31st March, 1922, is divided into two parts, the first containing information regarding civil aviation in Great Britain and the Empire and statistical tables, the second dealing with progress in foreign countries.

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\* "Synopsis of Progress of Work in the Department of Civil Aviation, 1st May, 1919, to 31st October, 1919." (Cmd. 418.) (H.M. Stationery Office, 2d.) "Synopsis of Progress of Civil Aviation in Foreign Countries, up to 31st October, 1919." (Cmd. 476.) (H.M. Stationery Office, 1d.) "Half-Yearly Report on the Progress of Civil Aviation, 1st October, 1919, to 31st March, 1920." (Cmd. 800.) (H.M. Stationery Office, 3d.) "Half-Yearly Report on the Progress of Civil Aviation, 1st April, 1920, to 30th September, 1920." (Cmd. 1073.) (H.M. Stationery Office, 4d.) "Half-Yearly Report on the Progress of Civil Aviation, 1st October, 1920, to 31st March, 1921." (Cmd. 1342.) (H.M. Stationery Office, 6d.) and "Half-Yearly Report on the Progress of Civil Aviation, 1st April, 1921, to 30th September, 1921." (Cmd. 1559.) (H.M. Stationery Office, 3s.)

## **PART I.—GENERAL AND BRITISH EMPIRE.**

### **RELATIONS WITH FOREIGN COUNTRIES.**

Since the publication of the last Half-Yearly Report, Bolivia has intimated that she is ready to deposit her ratification of the International Air Convention. Thus the majority of the original 26 signatory States required before the International Commission for Air Navigation can be established has been obtained.

An amended form of the proposed declaration relating to Article 5\* of the Convention has been prepared by Great Britain in consultation with the Dominions and India and is being communicated to the French Government with a view to its acceptance by France and the various other States concerned. It is hoped that agreement to this formula will enable ratifications of the Convention to be deposited and the International Commission for Air Navigation, provided for under Article 34, to be established at an early date.†

The Foreign Office has conveyed to the French Ambassador the concurrence of His Majesty's Government in the proposed amendment to Article 12 of the temporary Agreement between Great Britain and France extending the French corridor of entry from Etaples to the Belgian frontier and abolishing the British corridors.

### **GROUND ORGANISATION.**

#### **(i) Air Ports and Landing Stations.**

Accommodation at the Croydon aerodrome has been increased by the erection of four additional Bessonneau hangars, which have been let to air transport firms. Refuelling has been facilitated by the installation by contractors at their own expense of two additional bulk petrol systems. The aerodrome is now enclosed by a corrugated iron fence. Arrangements have been made for the Royal Aero Club to hold meetings at the aerodrome during the present year on 17th April, 3rd June and 29th July.

Economies have been effected at Lympne by a reduction in the staff and the motor transport establishment, and in the cost of maintenance of two hangars.

Owing to the need, in the interests of safety, for a larger number of emergency landing grounds on the London-Paris route, arrangements have been made for acquiring landing rights at Pluckley, Littlestone and Marden.

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\* Article 5 provides that "no contracting State shall, except by a special and temporary authorisation, permit the flight above its territory of an aircraft which does not possess the nationality of a contracting State."

† Ratifications were actually deposited on 1st June, 1922, and the Convention will therefore come into force 40 days after that date.



As a result of correspondence with the Board of Trade, it has been decided to make all future licences issued for foreshore aerodromes subject to the following conditions :—

(a) In order to safeguard the public using the seashore, one or more suitable danger signals are to be conspicuously displayed when any aircraft using the aerodrome is flying in its immediate vicinity or is about to take off from or land on the aerodrome.

(b) The public is to be informed of the meaning of these danger signals by notices posted in prominent places.

(c) The use of the aerodrome is to be restricted to aircraft of which the licensee is cognisant.

(d) Any licensee of a foreshore aerodrome shall be made expressly responsible for keeping an attendant constantly at the aerodrome every day, between the time when the first aircraft arrives and the last aircraft leaves, to keep the public out of danger when aircraft are about to take off from or land on the seashore.

## (ii) Communications (Signals and Navigation).

The value of the wireless direction finding stations at Croydon and Pulham, which have been regularly employed, has been further proved under the climatic conditions prevailing during the winter, and on several occasions aircraft have been guided in by this means during periods of low cloud or poor visibility. Pilots should accustom themselves to the use of wireless direction finding in preference to visual navigation, not only when the need arises but also in fine weather. At the suggestion of the Handley Page Transport Company, a system has been introduced for the location of aircraft in bad weather within a radius of about ten miles from Croydon aerodrome. This comprises a large scale map in the control tower of the aerodrome showing the area divided into sectors, small discs with similar sectors being carried in the aircraft. The officer in charge of the control tower locates the aircraft by means of a sound locator and informs the pilot by wireless telephone in which sector he is flying.

Regulations, which will come into force when the International Air Convention has been ratified, have been drafted for the compulsory carriage of wireless by passenger and goods aircraft. Meanwhile all British aircraft, with the exception of two small machines, operating on the recognised air routes between England and the Continent under the subsidy scheme are already equipped with wireless telephonic apparatus. Foreign aircraft on these routes, with the exception of one French machine, have not yet started to use wireless, but the French companies have agreed that all their large passenger carrying aircraft on the London-Paris service shall be so equipped by the middle of August, 1922, and the Dutch authorities are making similar arrangements. In order to facilitate the use of wireless telephony, Great Britain, France and Belgium have prepared a vocabulary of standard



phrases in English, French and Dutch, each phrase and word being numbered for the benefit of operators unacquainted with languages other than their own. The value of wireless telephonic communication has been recently demonstrated on two occasions when a pilot was warned by this means of a small accident, of which he was unaware, to the undercarriage of his machine when taking off, and was thus enabled to take additional precautions on landing at the end of his journey.

Experiments have been carried out to ascertain how far private telephone calls by passengers en route between London and Paris would be utilised, and, if necessary, to approach the General Post Office on this subject. Two private calls were allowed during each flight by aircraft of the Handley Page Transport Company and the Instone Air Line Company, but the demand for their use was not sufficient to justify at present the permanent adoption of this scheme.

Further experience has been gained in the combination of line and wireless telephony by connecting the Croydon control tower telephone by line to the wireless apparatus which is in daily communication with aircraft. An experiment has been successfully made to enable an office in London to talk direct to an aircraft in flight.

Improvements are being introduced into the Air Ministry wireless station and its auxiliary station at Kidbrooke whereby the former will be responsible for the reception of messages, while it will carry out all normal transmission by remote control of the auxiliary sets installed at Kidbrooke. The power of the station has been further increased in order to cope with meteorological messages to and from the Continent, for which Great Britain is now internationally responsible. Weather reports from 52 European stations, as far distant as Jan Meyen Island, Iceland and Moscow, are received, there being an average total of 160 messages daily. The cost of this work, if done by contract, would be 15,000*l.* a year, whilst the cost of transmitting the daily weather telegrams sent out for the benefit of the whole of Europe would be 10,000*l.* a year.

The following additional places have been marked in white chalk letters for the assistance of pilots on cross-country flights :—Bentley, Colchester, Cranbrook, Haslemere, Huntingdon, Mayfield, Newbury, Petersfield, Reading, Uckfield and Weybridge.

The arrangements mentioned in the last report for opening the English section of the London-Paris route for night flying consist of aerial route lights at Tatsfield Hill, Surrey and Cranbrook, Kent, and an automatic illuminated ground sign, which will be situated at the Penshurst emergency landing ground midway between Croydon and Lympne, so as to indicate the direction and approximate velocity of the surface wind. These various lights are constructed to operate for a year without attention. In addition, an automatic wind indicator for night flying has been completed at Croydon, while the progress made with search-

lights and other apparatus designed to simplify night landing has placed the Croydon and Lympne aerodromes in a position to cope with night services at short notice.

In regard to assisting aircraft in fog or mist, the design of a beacon flare of intensified coloured light shows a distinct improvement in this method of penetrating mist.

An aerial route light, similar in type to those used in England, is to be erected in Egypt. This will make it possible to obtain the data regarding atmospheric absorption, ranges of lights and climatic effects on lighting apparatus essential to the economical provision of night-flying facilities over desert areas.

The compilation of the map sheets of the General International Aeronautical Series is being continued. The map of Iraq requires minor alterations, but it is hoped that a series of general maps covering the routes England-Egypt-India will be available in a few months.

Records have been prepared showing existing aviation facilities in Bulgaria, Jugo-Slavia, Finland and Turkey, in addition to the countries mentioned in the last report. This information, as well as being of value to pilots and air transport companies, has proved of considerable assistance to aviation insurance companies.

### (iii) Meteorology.

The following improvements have been made in the system of weather reports used on the London-Continental air routes :—

(1) The new code for weather telegraphy adopted by the International Meteorological Committee in 1921 was brought into use in Great Britain, Belgium and Holland at the beginning of the year 1922, and at the end of March the section of the code used for hourly route reports was also introduced by France. (2) The system of ground signals at the Lympne aerodrome has been extended by the addition of signals relating to the weather at St. Inglevert. It is understood that the French authorities intend using a similar method at St. Inglevert to indicate weather conditions at Lympne and at Abbeville to indicate weather conditions at Paris.

During the winter a monthly average of from 150 to 200 inquiries from pilots has been dealt with by the meteorologist in charge at Croydon.

The issue of meteorological information to the public has been increased by evening forecasts for the sea districts around the British Isles.

Since October valuable reports have been received by wireless *via* Christiania from the new Norwegian weather station on the island of Jan Meyen. Reports from Scandinavian and French ships in the Atlantic are now received by wireless from time to time in addition to those from British ships.

Experiments have been carried out at Croydon on various methods of measuring the height to which fog extends.

At Farnborough tests have been carried out as to the possibility of obtaining pilot balloon ascents to great heights by arranging



with the Royal Aircraft Establishment for the balloon to be released from an aeroplane at the height of some 15,000 feet instead of from the ground.

In connexion with the International Investigation of the Upper Air on the days 17th to 19th January, observations of upper air temperatures and nephoscopic observations of high cloud were obtained, supplemented at Shoeburyness by observations by a kite balloon and shell bursts, but the weather was unfavourable for high pilot balloon ascents.

A local meteorological station was opened at Andover at the beginning of the year 1922, while the stations at Manchester, Goswick and Howden, which are no longer required for civil aviation or airship operations have been closed.

A superintendent has been appointed for the new meteorological office to be opened at Malta and will take up his duties there at an early date.

### COMMERCIAL AIR SERVICES.

The temporary arrangement mentioned in the last report, under which Handley Page Transport, Ltd., and S. Instone & Co., Ltd. (The Instone Air Line), operated regular services between London and Paris, was extended to 31st March, 1922, owing to the difficulty in obtaining delivery of new machines in time to permit the "permanent" scheme to come into operation prior to April 1st.

The Aerial Routes Syndicate, Ltd., having failed to obtain adequate financial backing for the company which they proposed to form in order to operate the London-Brussels service, the "approval" provisionally granted to this firm was withdrawn. Eventually the Instone Air Line was approved for the operation of this service.\*

The operation of the Paris services by the two firms under the temporary scheme continued to give satisfactory results during the period under review. Attention is drawn to the increase in efficiency during the winter months as compared with former years. During the three months December, January and February, 1921-22, 195 cross-Channel flights were commenced by British aircraft with an average efficiency of 79·4 per cent. (*i.e.*, percentage of flights completed within four hours of the time of departure), while in the corresponding months of 1920-21, the number of flights was 71 and the efficiency 66·2 per cent. The similar figures for December, 1919, are not available, but for January and February, 1920, there were 132 flights with an efficiency of 56·8 per cent. For the whole year 1920 the efficiency of operation was 80·2 per cent. and only in four months was this figure exceeded. For 1921 the figure rose to 89·2 per cent. and only in four months did the efficiency fall below 90 per cent. (*vide* Tables B. and G., pages 14 and 19). The 90 per cent. efficiency rate was not reached in any month in 1920.

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\* This service was inaugurated on 8th May, the regular daily services starting on 15th May.



A considerable increase in traffic is essential if the air transport firms are to obtain a commercial basis of operation. It is not as yet possible to say whether the increase during 1922 will progress with sufficient rapidity, but the figures for the first quarter of the year are at least encouraging. During these three months, 981 passengers were carried between Great Britain and the Continent—676 by the British firms (*vide* Table B.). The corresponding figures for 1921 were 670 passengers; 240 of whom were carried in British aircraft; while for 1920 the figures were 333 and 285 respectively.

During the six months under review the value of the goods imported and exported by air, amounting to 132,774*l.* and 92,583*l.* respectively, shows a decrease on the figures for the corresponding period in 1920–21. Since the beginning of 1922, however, there has been a steady improvement (*vide* Tables C. and D., pages 15 and 16). The weight of goods carried by British aircraft has also dropped from 38 tons in 1920–21 to 17·6 tons in the present period (Table A., page 13). There has been a similar decline in the number of letters transmitted by air mail (Table E., page 17). It is satisfactory to note that for the first time there have been no fatal accidents during a half-yearly period (Table H., page 20).

#### AIRSHIPS.

The question of the operation of airship services for Imperial communications has been considered by the Governments of the Dominions and India which have, with the exception of Australia, signified their inability on financial grounds to participate in the scheme proposed by the Imperial Communications Committee in July, 1921.

During March, 1922, Commander C. Dennis Burney, C.M.G., submitted a proposal to the Air Ministry for the establishment of Imperial airship services by commercial interests which the Air Council considers practicable and the financial aspect of which is now under consideration by the Cabinet.

#### LICENCES AND CERTIFICATES.

The following licences and certificates have been granted during the period under review :—

—	New Licences.	Renewals.	No. of Licences or Certificates current on 31st March, 1922.
Licences for Pilots - - -	14	106	120
„ „ Ground Engineers -	43	66	269
„ „ Aerodromes - -	34	9	21
Certificates of Registration—			
Heavier-than-Air Craft -	108	30	218
Lighter-than-Air Craft -	—	2	8
Certificates of Airworthiness -	28	18	133*

\* Includes 1 Airship.

## MEDICAL SERVICES.

A considerable amount of information has been obtained from the examination of pilots, and the results of these investigations will shortly be published.

## ESTIMATES.

The Estimates for 1922-23 include a total sum of 364,000*l.* for Civil Aviation in addition to an estimate of 86,500*l.* for the Headquarters Staff, including 51,000*l.* for the Meteorological Office Staff; of this sum, 200,000*l.* is to be applied to the direct assistance of "approved" British firms operating cross-Channel air services with British machines and engines. Under Appropriations in Aid, 16,000*l.* is estimated as the receipts from the hire-purchase of aircraft by operating companies as provided in the subsidy scheme.

The Estimates for Civil Aviation also include 79,000*l.* for the Meteorological Services (excluding Headquarters Staff), which are carried out for the whole of the British Isles.

38,000*l.* has been allowed for the upkeep of aerodromes; 15,000*l.* for expenditure on air routes, surveys, &c., including the wages of W/T personnel; 8,000*l.* for technical equipment; and 61,000*l.* for works and buildings at Croydon, Lympne, Malta, and the Kidbrooke wireless station, and for the illumination of air routes and in Egypt.

## THE DOMINIONS, INDIA, AND THE COLONIES.

*Australia.*—In addition to the Geraldton-Derby air service, tenders have been accepted for services between Sydney and Adelaide, Sydney and Brisbane, and Charleville and Cloncurry in central Queensland. The ground organisation of the Geraldton-Derby route is almost complete, and of the Sydney-Adelaide route well advanced. Owing to the decision to consider proposals for the operation of the Sydney-Brisbane route by seaplanes and amphibians, ground work has not yet commenced.

A number of municipalities are establishing their own aerodromes, especially in the west of New South Wales, where the majority of the principal towns are negotiating with the Lands Department with a view to securing suitable areas under their direct control. Certain municipalities in Queensland and Victoria are proceeding along the same lines.

Several technical colleges are proposing to introduce courses in aeronautical engineering as an extension to their regular engineering courses.



AUSTRALIA—CIVIL AVIATION LICENCES AND CERTIFICATES  
ISSUED AND STILL IN FORCE.

(28th March to 31st October, 1921.)

Type of Licence or Certificate.	Licences and Certificates.							Total in force on 31st October, 1921.	
	Applications received.	Total issued.	Rejected.	Withheld.	Pending consideration.	Withdrawn or Cancelled.		Per- manent.	Pro- visional.
Pilot's licences—									
Private - -	4	3	—	1	—	—	—	—	3
Commercial - -	67	57	4	2	3	1	42	15	
Ground Engineer's licences - - -	101	97	1	—	3	1	5	91	
Aircraft registration certificates - -	59	50	7	2	—	1	49	—	
Aircraft Airworthiness certificates - -	50	38	5	3	4	2	16	20	
Aerodrome licences -	11	8	—	1	2	—	7	1	
TOTALS -	292	253	17	9	12	5	119	130	

*Canada.*—The work carried out by the Civil Aviation in Canada during the summer months was described in the last half-yearly report on the Progress of Civil Aviation. In addition, a demonstration flight, entailing a complete circuit of Lakes Winnipeg, Winnipegosis and part of Lake Manitoba, was made in order to investigate the possibilities of instituting air patrols over the forest areas of northern Manitoba, and to obtain a general idea of the topography and water system of an extensive area. An investigation of the mosquito breeding areas in the lower Fraser Valley, British Columbia, and a geological survey, were carried out from the air on behalf of the Entomological Department of the Department of the Interior.

Owing to climatic conditions there has been a cessation of activity during the winter months.

*India.*—A new aviation company has been formed with a capital of 10 lakhs of rupees for the transport of passengers in districts throughout India, Burmah and Kashmir. If services are successfully established, it is the Company's intention to tender for the carriage of mails.

The civil aerodromes at Bombay, Allahabad and Dum Dum are ready for use, or nearing completion.

Information is being collected as to the names and addresses in India of all ex-R.A.F. pilots, mechanics and other personnel with aircraft experience, undertakings likely to be interested in air transport, firms capable of undertaking aircraft repairs and



construction, insurance firms prepared to undertake aircraft insurance, routes on which aircraft services can be made to pay, and freights suitable for transport by air.

Research is being carried out into the climatic effects on aeroplane construction in India, especially in regard to glues and varnishes.

Indian air regulations are being further revised, and special attention is being paid to the procedure for the investigation of the origin and causes of accidents. The control of civil aviation has now been transferred from the Department of Commerce to that of Public Works.

The following licences and certificates have been granted up to the end of 1921 :—

Registration of aircraft	-	-	-	-	-	13
Pilot's licences—						
Private	-	-	-	-	-	5
Passengers or goods	-	-	-	-	-	5
Ground Engineer's certificates	-	-	-	-	-	10

*New Zealand.*—An Air Navigation Bill, necessary to bring into effect the International Air Convention, is being prepared for presentation to Parliament, and provisional regulations thereunder, providing for a system of licensing and inspecting aircraft and personnel which will ensure the greatest possible measure of safety, are being drafted. This will entail amendments to the present regulations, which came into force on 18th March 1921.

No land has yet been procured for the construction of key aerodromes, but a number of aerodromes have been opened by private companies which carry out short distance passenger flights and experimental services. The following figures show the work carried out between 1st April and 30th September by the three principal firms engaged in civil flying :—passengers carried, 3,456; approximate machine mileage, 30,281; hours flown, 462 (including 148 on the Auckland-Whangerei and 18 on the Christchurch-Timaru services).

*Rhodesia.*—Owing to the financial stringency at home and the inability of the British South Africa Company to provide for their maintenance, it has been decided to abandon the four aerodromes in Northern Rhodesia which form a part of the Cairo-Cape Town air route system.

*South Africa.*—In response to a request from the Union authorities, the Air Ministry has undertaken to represent South Africa on the International Commission for Air Navigation, when that body is constituted.

TABLE A.—BRITISH CIVIL AVIATION (INTERNAL AND CONTINENTAL SERVICES).  
(May, 1919, to March, 1922, inclusive).

Period.	Machine Flights.		Approximate machine mileage.		Number of passengers carried.		Weight of goods carried.
	Internal. ‡	Continental.	Internal. ‡	Continental.	Internal. ‡	Continental.*	
October 1921 - - -	2,901	106	24,000	24,000	4,399	560	Tons. 2·8
November 1921 - - -	402	74	7,000	17,000	605	274	2·5
December 1921 - - -	669	68	7,000	15,000	1,137	176	1·6
January 1922 - - -	439	44	4,000	10,000	587	113	1·9
February 1922 - - -	327	81	13,000	18,000	551	183	5·3
March 1922 - - -	520	112	8,000	25,000	922	380	3·5
October 1921—March 1922 -	5,258	485	63,000	109,000	8,201	1,686	17·6
April 1921—September 1921 -	16,509	671	171,000	150,000	27,847	4,006	9·0
October 1920—March 1921 -	4,852	644	68,000	144,000	8,685	1,418	38·0
April 1920—September 1920 -	18,661	1,997	234,000	455,000	28,009	4,336	86·5
October 1919—March 1920 -	5,966	605	97,000	135,000	9,012	796	25·8
May 1919—September 1919 - (5 months.)	31,101	149	427,000	33,000	57,773	359	20·2
TOTAL : May 1919—March 1922	82,347	4,551	1,060,000	1,026,000	139,527	12,601	197·1

\* From October 1921 only paying passengers included.

† The weight of goods carried internally forms only a very small proportion of the total.

‡ Internal flying comprises "joy riding" and intermittent commercial flights.



TABLE B.—AIRCRAFT FLIGHTS AND PASSENGERS CARRIED BETWEEN THE UNITED KINGDOM AND THE CONTINENT.  
(August, 1919, to March, 1922, inclusive.)

Period.	British.		French.		Belgian.*		Dutch.		Other States.		Totals all countries.	
	Flights.	Passen- gers carried.	Flights.	Passen- gers carried.	Flights.	Passen- gers carried.	Flights.	Passen- gers carried.	Flights.	Passen- gers carried.	Flights.	Passen- gers carried.
October 1921 -	106	560	148	279	3	—	47	46	10	3	314	888
November 1921 -	74	274	110	118	—	—	25	13	5	—	214	405
December 1921 -	68	176	51	60	—	—	2	1	1	—	122	237
January 1922 -	44	113	37	39	—	—	—	—	—	—	81	152
February 1922 -	81	183	71	85	—	—	1	2	—	—	153	270
March 1922 -	112	380	100	178	—	—	1	1	3	—	216	559
Oct. 1921–March 1922 -	485	1,686	517	759	3	—	76	63	19	3	1,100	2,511
April 1921–Sept. 1921 -	671	4,006	1,058	3,499	339	597	292	420	34	9	2,394	8,531
Oct. 1920–March 1921 -	644	1,418	378	525	138	79	3	—	2	1	1,165	2,023
April 1920–Sept. 1920 -	1,997	4,336	408	312	38	49	—	—	2	—	2,445	4,697
Oct. 1919–March 1920 -	605	796	120	88	7	3	—	—	2	—	734	887
26 Aug. 1919–Sept. 1919 -	149	359	13	9	—	—	—	—	—	—	162	368
Total: August 1919 to March 1922 -	4,551	12,601	2,494	5,192	525	728	371	483	59	13	8,000	19,017

\* The London-Brussels air mail service was suspended at the end of September, and the London-Amsterdam air mail service on 19th November 1921.



TABLE C.—VALUE OF GOODS IMPORTED INTO THE UNITED KINGDOM BY AIRCRAFT.

(August, 1919, to March, 1922, inclusive.)

Period.	Imports (free) from—					Imports (dutiable) from—					Total all Imports.
	Bel-gium.	France.	Nether-lands.	Other Coun-tries.*	Total.	Bel-gium.	France.	Nether-lands.	Other Coun-tries.*	Total.	
	£	£	£	£	£	£	£	£	£	£	£
October 1921 -	163	33,122	2,425	40	35,750	3	1,482	37	—	1,522	37,272
November 1921 -	—	28,170	398	—	28,568	1	1,312	3	—	1,316	29,884
December 1921 -	—	18,446	—	—	18,446	—	1,829	19	—	1,848	20,294
January 1922 -	—	6,107	—	—	6,107	—	690	—	36	726	6,833
February 1922 -	—	14,352	—	—	14,352	—	915	—	—	915	15,267
March 1922 -	—	21,595	—	—	21,595	—	1,597	—	32	1,629	23,224
Oct. 1921–March 1922 -	163	121,792	2,823	40	124,818	4	7,825	59	68	7,956	132,774
April 1921–Sept. 1921 -	4,388	149,992	5,583	309	160,272	28	45,808	106	143	46,085	206,357
Oct. 1920–March 1921 -	3,804	282,482	227	9	286,522	22	17,714	7	1,438	19,181	305,703
April 1920–Sept. 1920 -	229	348,723	1,893	850	351,695	398	16,180	51	8,282	24,911	376,606
Oct. 1919–March 1920 -	384	123,193	470	—	124,047	7	7,554	1	6	7,568	131,615
Aug.–September 1919 -	—	4,425	—	—	4,425	—	76	—	—	76	4,501
Total: August 1919 to March 1922 -	8,968	1,030,607	10,996	1,208	1,051,779	459	95,157	224	9,937	105,777	1,157,556

\* Details of the totals in this column are available if required.

TABLE D.—VALUE OF GOODS EXPORTED FROM THE UNITED KINGDOM BY AIRCRAFT.

(August, 1919, to March, 1922, inclusive.)

Period.	Exports (British) to—					Re-exports to—					Total Exports and Re-Exports.
	Bel-gium.	France.	Nether-lands.	Other Coun-tries.*	Total British Exports.	Bel-gium.	France.	Nether-lands.	Other Coun-tries.*	Total Re-Exports.	
October 1921 -	£ 98	7,700	£ 1,874	£ 6	£ 9,678	£ —	£ 6,237	£ 16	£ —	£ 6,253	£ 15,931
November 1921 -	5	11,527	1,898	5	13,435	—	17,119	200	—	17,319	30,754
December 1921 -	163	8,271	1,100	—	9,534	—	2,787	—	—	2,787	12,321
January 1922 -	13	5,991	80	33	6,117	—	2,674	—	—	2,674	8,791
February 1922 -	6	6,674	69	—	6,749	11	3,531	—	—	3,542	10,291
March 1922 -	30	8,503	276	82	8,891	—	5,604	—	—	5,604	14,495
Oct. 1921—March 1922 -	315	48,666	5,297	126	54,404	11	37,952	216	—	38,179	92,583
April—Sept. 1921 -	3,209	54,834	13,649	202	71,894	—	37,307	579	620	38,506	110,400
Oct. 1920—March 1921 -	9,530	96,070	10,294	1,075	116,969	917	45,196	4,649	—	50,762	167,731
April—Sept. 1920 -	15,961	46,523	18,420	3,222	84,126	162	73,165	10,847	—	84,174	168,300
Oct. 1919—March 1920 -	9,583	29,271	—	1	38,855	—	24,888	—	—	24,888	63,743
Aug.—Sept. 1919 -	—	2,158	—	—	2,158	—	844	—	—	844	3,002
Total: August 1919 to March 1922 -	38,598	277,522	47,660	4,626	368,406	1,090	219,352	16,291	620	237,353	605,759

\* Details of the totals given in this column are available if required.



TABLE E.—ESTIMATED NUMBER OF LETTERS POSTED FOR TRANSMISSION BY AIR MAIL.  
(November, 1919, to March, 1922, inclusive.)

Period.	Estimated Number of Letters posted for—			Estimated Number of Letters received from—			Total Incoming Letters.	Parcels Mails Outgoing.
	Paris.	Brussels.†	Amsterdam.†	Paris.	Brussels.†	Amsterdam.†		
October 1921 - -	3,500	—	1,300	1,923	—	1,000	2,923	Lbs. 1,049
November 1921 - -	2,200	—	300	1,778	—	400	2,178	645
December 1921 - -	2,100	—	—	1,541	—	—	1,541	523
January 1922 - -	1,550	—	—	1,308	—	—	1,308	601
February 1922 - -	1,600	—	—	1,462	—	—	1,462	545
March 1922 - -	1,950	—	—	1,678	—	—	1,678	793
Oct. 1921–March 1922 -	12,900	—	1,600	9,690	—	1,400	11,090	4,156
April 1921–September 1921	30,530	3,980	8,330	13,991	8,705	16,000	38,696	1,068*
Oct. 1920–March 1921 -	32,810	18,610	7,980	15,210	7,920	16,200	39,330	—
April 1920–Sept. 1920 -	21,851	8,758	15,566	8,863	4,210	27,465	40,538	—
10th Nov. 1919–Mar. 1920	5,360	—	—	4,739	—	—	4,739	—
Total Nov. 1919–Mar. 1922	103,451	31,348	33,476	52,493	20,835	61,065	134,393	5,224

\* Three months July to September 1921.

† The London–Brussels Air Mail Service was suspended at the end of September, and the London–Amsterdam Air Mail Service on 19th November 1921.

TABLE F.—EFFICIENCY OF OUTWARD AIR MAIL SERVICES.

(November, 1919, to March, 1922, inclusive.)

Class A1 Flights.—Completed to aerodrome abroad in less than 4 hours from scheduled time of departure for London-Paris and London-Brussels route, and in less than 5 hours for London-Amsterdam route.

Class A2 Flights.—Completed to aerodrome abroad in from 4 to 6 hours from scheduled time of departure for London-Paris and London-Brussels route, and in from 5 to 7 hours for London-Amsterdam route.

Class B Flights.—Completed to aerodrome abroad on same day, but in more than 6 hours from scheduled time of departure (7 hours for London-Amsterdam route).

Class C Flights.—Commenced but not completed in the same day or not commenced for any reason (weather, failure of terminal ground services, &c.)

Period.	London-Paris.						London-Brussels.						London-Amsterdam.					
	Number of Flights.						Number of Flights.						Number of Flights.					
	A1.	A2.	Total A Flights.	B.	C.	Total Flights.	A1.	A2.	Total A Flights.	B.	C.	Total Flights.	A1.	A2.	Total A Flights.	B.	C.	Total Flights.
October 1921	19	2	21	—	5	26	81	—	—	—	—	—	22	2	24	—	2	26
November 1921	13	1	14	—	12	26	54	—	—	—	—	—	8	3	11	—	6	17
December 1921	11	—	11	—	14	25	44	—	—	—	—	—	—	—	—	—	—	—
January 1922	10	—	10	—	16	26	38	—	—	—	—	—	—	—	—	—	—	—
February 1922	16	2	18	—	6	24	75	—	—	—	—	—	—	—	—	—	—	—
March 1922	19	5	24	—	3	27	89	—	—	—	—	—	—	—	—	—	—	—
October 1921-March 1922	88	10	98	—	56	154	64	—	—	—	—	—	30	5	35	—	8	43
April to September 1921	179	12	191	3	8	202	95	89	18	107	2	46	102	23	125	5	10	140
October 1920-March 1921	*	*	116	7	64	187	62	*	*	66	—	84	*	*	12	—	14	26
April-September 1920	*	*	229	15	27	271	84	*	*	59	—	4	*	*	63	3	9	75
November 1919-March 1920	*	*	69	1	50	120	58	—	—	—	—	—	—	—	—	—	—	—
Percentage of total A Flights Scheduled.	81						70						81					
Percentage of total A Flights Scheduled.	92						44						84					

\* Prior to April 1921 returns do not differentiate between Class A1 and A2 flights.



TABLE G.—EFFICIENCY OF BRITISH AIR TRANSPORT SERVICES BETWEEN LONDON AND PARIS.  
(January, 1920, to March, 1922, inclusive.)

January, 1920, to March, 1922, inclusive.

Period.	British Machines.						Percentage to Total Flights commenced of Flights known to have been completed in less than 4 hours.*
	Flights.						
	Completed same day.			Completed next day or not completed.	Time taken unknown.	Total commenced.	
	Under 3 hours. A.	3-4 hours. B.	Over 4 hours. C.				
October 1921 - - -	69	23	3	4	—	99	92.9 (92.9)
November 1921 - - -	39	15	1	21	—	76	71.0 (71.0)
December 1921 - - -	33	15	4	14	1	67	71.6 (72.4)
January 1922 - - -	22	7	2	12	1	44	65.9 (67.0)
February 1922 - - -	58	20	1	5	—	84	92.9 (92.9)
March 1922 - - -	83	24	3	4	—	114	93.9 (93.9)
October 1921-March 1922 - -	304	104	14	60	2	484	84.3 (84.5)
April-September 1921 - - -	420	167	20	20	—	627	93.6 (93.6)
October 1920-March 1921 - -	291	74	16	50	14	445	82.0 (83.6)
April-September 1920 - - -	946	217	63	54	129	1,409	82.5 (87.1)
January-March 1920† - - -	109	51	16	40	35	251	63.7 (70.7)
Total, January 1920-March 1922 - - -	2,070	613	129	224	180	3,216	83.4 (86.2)

“Time taken unknown” were completed in under

\* The percentages in brackets assume that one-half of the flights classified as "time taken unknown" were completed in under 4 hours.

† This is a three months total, figures for October-December 1919 not being available.

TABLE H.—ACCIDENTS (CIVIL AVIATION).  
(May 1919, to March 1922, inclusive.)

	May 1919 to March 1920. (11 months.)	April 1921 to March 1920. (12 months.)	April 1921 to September 1921. (6 months.)	October 1921 to March 1922. (6 months.)	April 1921 to March 1922. (12 months.)
Flying accidents resulting in death of one or more occupants of machine.	4	4	2	—	2
Non-fatal flying accidents resulting in injury to occupants of machine -	11	7	2	2	4
Flying accidents resulting in death of third party -	1	—	—	—	—
Flying accidents resulting in injury to third party (propeller) - - -	—	1	—	—	—
Flying accidents not in- volving injury to per- sonnel - - -	8	12	6	4	10
TOTAL - - -	24	24	10	6	16
<i>Casualties to personnel.</i>					
Pilots killed - - -	4	4	2	—	2
Pilots injured - - -	9	5	2	2	4
Passengers killed - - -	1	10	1	—	1
Passengers injured - - -	12	4	1	1	2
Third party killed - - -	1	—	—	—	—
Third party injured - - -	—	1	—	—	—
<i>Accident and Casualty rates :—</i>					
Machine miles per flying accident - - -	28,800	37,600	32,200	30,500	31,500
Machine flights per flying accident - - -	1,576	1,090	1,718	1,049	1,467
Machine hours per flying accident - - -	401	451	415	393	407
Passengers killed per 1,000 carried - - -	0.01	0.24	0.03	—	0.02
Passengers injured per 1,000 carried - - -	0.18	0.09	0.03	0.08	0.05



## PART II.—FOREIGN COUNTRIES.

### GENERAL REMARKS.

During the six months under review the activities of civil aviation abroad have been generally curtailed owing to winter conditions. Considerable sums of money have, however, been voted in various countries, notably France, for the promotion of air transport this summer, and the establishment of a number of new services is anticipated. Interesting statistics are given of the amount of civil flying carried out during 1921.

According to Article 198 of the Treaty of Versailles, the armed forces of Germany may not include any naval or military air forces, and attention is drawn to the regulations, drawn up by the Allied Powers, to distinguish between commercial and military aircraft in Germany.

## EUROPE.

### BELGIUM.

The Government is again providing 10,000,000 francs for the development of civil aviation in 1922, including subsidies to the amount of 3,000,000 francs for the operation of air lines.

The following statistics illustrate the work carried out by civil aviation during 1921 :—

Number of flights	-	-	-	-	-	-	1,384
Number of machine hours flown	-	-	-	-	-	-	2,411
Average duration of each flight	-	-	-	-	1 hr.	44 min.	
Approximate machine mileage	-	-	-	-	-	-	177,500
Number of passengers carried	-	-	-	-	-	-	2,344
Weight of goods carried in tons	-	-	-	-	-	-	23·5
Flying accidents resulting in death to one or more occupants of machine	-	-	-	-	-	-	2
Non-fatal accidents resulting in injury to occupants of machine	-	-	-	-	-	-	2
Pilots killed	-	-	-	-	-	-	2
Pilots injured	-	-	-	-	-	-	2
Passengers killed	-	-	-	-	-	-	0
Passengers injured	-	-	-	-	-	-	1

### CZECHO-SLOVAKIA.

9,080,000 kr. have been voted for civil aviation in 1922, which represents an increase of 2,230,000 kr. on the vote for 1921. Of this amount, 6,000,000 kr. have been allotted as a subsidy to the

Compagnie Franco-Roumaine de Navigation Aérienne, and 3,080,000 kr. to the construction, improvement and upkeep of aerodromes.

The Government is negotiating with the German and Austrian Governments for the establishment of air lines between Prague and Berlin and between Prague and Vienna.

## FRANCE.

The vote for civil aviation in 1922, as passed by both Chambers, amounts to 147,210,970 francs, including 45,382,000 francs for subsidies, an increase of approximately 14,000,000 francs on 1921. The conditions upon which these are granted to air transport companies are laid down in a Presidential decree of 4th March, 1922.

In consequence of this assistance air transport companies are extending their services. Thus the Messageries Aériennes, whose board has been joined by two members of the Compagnie Farman, will run three daily services between London and Paris, the earliest leaving London at 5 a.m. with newspapers, goods and mails, while there will be connections at Paris with the Paris-Prague-Warsaw air line and the projected extension to Constantinople. It is taking over the operation of the Paris-Amsterdam route from the Compagnie Générale des Transports Aériens, and its programme for 1922 includes a service from Lyons to Geneva and extensions from Paris *via* Lyons to Marseilles, which will afford direct communication by air between London and Marseilles. The journey will take about 9 hours and connections will be made with steamships leaving for, and arriving from, the East.

The Company's Paris-Havre service to connect with trans-Atlantic steamers was to be re-opened on 15th March. In consequence of the satisfactory returns for 1921, the Compagnie des Grands Express Aériens also proposes to augment its Paris-London service. The weekly service between Paris and Lausanne is to include Geneva, either as a terminus or an intermediate stage. From the 1st March the Compagnie Latecoere will undertake five flights a week between Toulouse and Casablanca, and from April onwards this route will be covered in one day at least once a week. Owing to the increase in the number of letters carried on this route from 12,000 in February to over 47,000 in December, 1921, and the recent reduction in postage fees to 0.50 francs for 20 grammes, the Company expects in 1922 a large expansion of this part of its business. The air line is being extended from Casablanca to Mogador.

A weekly seaplane service between Antibes and Ajaccio (Corsica), operated in accordance with an agreement entered into with the French Government, was commenced in November, 1921, by the Compagnie Aéronavale and will be continued during 1922. An extension of the line to Bizerta is expected.



The following statistics illustrate the total work carried out by French commercial aviation in 1921 :—

Number of flights	-	-	-	-	-	6,513
Number of machine hours flown	-	-	-	-	-	18,017
Average duration of each flight	-	-	-	-	2 hrs. 46 min.	
Approximate machine mileage	-	-	-	-	-	1,460,000
Number of passengers carried	-	-	-	-	-	10,305
Weight of goods in tons	-	-	-	-	-	175
Flying accidents resulting in death to one or more occupants of machine	-	-	-	-	-	6
Non-fatal accidents resulting in injury to occupants of machine	-	-	-	-	-	10
Pilots killed	-	-	-	-	-	4
Pilots injured	-	-	-	-	-	5
Passengers killed	-	-	-	-	-	8
Passengers injured	-	-	-	-	-	5

A committee has been formed called the Comité Français de Propagande Aéronautique to contribute in every possible way to the development of France's air power, to gain the moral and material assistance of the country, to instruct public opinion on aeronautical progress throughout the world, to promote and organise all kinds of activities within the sphere of aeronautics in the interests of France and the requirements of national defence, and to obtain the collaboration of public authorities.

*Colonies.*—A bi-weekly air mail service, operated by military machines, has been established between Latakia and Homs, and a weekly air mail service between Damascus and Palmyra.

## GERMANY.

The Conference of Ambassadors passed a resolution on 1st February, 1922, declaring that Article 202 of the Treaty of Versailles, relating to the surrender of aeronautical material, had been satisfactorily fulfilled, and fixing 5th May as the date upon which Germany may be permitted to resume the manufacture of civil aircraft.

The following rules, however, have been drawn up :—The under-mentioned heavier-than-air craft shall be deemed to be military : (1) single-seater machines with power exceeding 60 h.p.; (2) machines that can fly without a pilot; (3) machines with any form of armour or protection or with any fittings to take any form of armament, gun, torpedo, bomb or sights for the above; (4) machines exceeding a maximum ceiling, with full load, of 4,000 metres (engines with supercharging device will

bring the machine to which they are fitted within the category of military aircraft); and (5) machines with full load at an altitude of 2,000 metres exceeding a speed of 170 kilometres an hour. Rule 6 lays down that the maximum amount of oil and fuel (best

quality aviation petrol) to be carried is not to exceed  $\frac{800 \times 170}{V}$

grammes per horse power (where V is the speed of the machine with full load at 2,000 metres altitude); and Rule 7 that machines capable of carrying a useful load exceeding 600 kilogrammes, including pilots, mechanics and instruments, when the requirements in (4), (5) and (6) have been complied with, shall be deemed military aircraft. Airships exceeding the following cubic capacity shall be deemed military: (1) rigid airships, 30,000 cubic metres; (2) semi-rigid airships, 25,000 cubic metres; (3) non-rigid airships, 20,000 cubic metres. All works manufacturing aeronautical material must be certified, and all aircraft and pilots registered under the conditions laid down in the International Air Convention. No stocks of aero engines, spares or engine accessories may be maintained over and above those considered necessary for civil aviation. The above definitions are to be revised every two years in order to consider the modifications necessitated by the progress of aeronautics.

At present there are five important air transport companies, which fall into two groups, viz., the Lloyd Luftdienst group, under the Nord Deutscher Lloyd, which includes the Sablatnig, Lloyd Ostflug, Rumpler and Deutscher Luft Lloyd companies, and the Deutsche Luftreederei group, under the Hamburg-Amerika Line, which has been financially assisted by the Allgemeine Elektrizitäts Gesellschaft and the Zeppelin Company. A number of pilots belonging to these companies are undergoing a course of instruction in aeronautics in Berlin.

The following regular air transport services have been approved by the Ministry of Transport, and will be operated as follows:—By the Deutsche Luftreederei: Rotterdam—Amsterdam—Hamburg; Hamburg—Berlin—Dresden; Dantzig—Königsberg—Memel—Riga—Reval; Hamburg—Westerland; by the Sablatnig: Berlin—Bremen; Bremen—Wangerooze—Nordeney; by the Lloyd Ostflug: Berlin—Stettin—Dantzig—Königsberg; Königsberg—Kovno—Riga; Hamburg—Stettin; by the Deutscher Luft Lloyd: Bremen—Hanover—Magdeburg—Leipzig—Dresden; by the Bayerische Rumplerwerke: Berlin—Leipzig—Furth—Munich—Augsburg; by the Bayerischer—Luft—Lloyd: Munich—Constance. The majority of these services will be daily.

The work carried out by German civil aircraft on all routes between 1st April and 31st October, 1921, the date upon which civil flying closed for the winter, is given as follows:—



	Number of Passengers carried.	Mileage flown.	Weight of Mails carried in lbs.	Percentage of scheduled flights carried out.
April - - -	400	131,200	2,500	85·9
May - - -	650	126,300	4,300	91
June - - -	790	148,100	4,800	91·3
July - - -	1,390	178,100	15,100	92
August - - -	1,730	178,800	22,900	94·4
September - - -	1,240	168,100	14,900	92·9
October - - -	620	103,100	3,100	88·4
Total -	6,820	1,033,700	67,600	90·8(av.)

Negotiations have been entered into between the German and Czecho-Slovak Governments for the creation of an air mail service between Berlin and Prague.

### HOLLAND.

The vote for civil aviation in the 1922 Budget which is still under discussion amounts to 813,300 florins, an increase of 98,300 florins on the vote for 1921. The subsidy to the Koninklijke Luchtvaart Maatschappij (K.L.M.) has, however, been reduced provisionally from 370,000 to 200,000 florins. The air mail services to France, Germany and England were suspended in October and November for the winter months; but during the German railway strike in February an air service was opened by the K.L.M. between Rotterdam, Amsterdam, Bremen and Hamburg in conjunction with the Hamburg-Copenhagen service conducted by the Danske Luftfartselskab.

The following figures show the traffic on the K.L.M.'s. air lines in 1921 as compared with 1920 :—

	Passengers.	Weight of goods in tons.	Weight of mails in lbs.
Amsterdam-London - - -	489	25	1,856
Rotterdam-Hamburg- - -	254	3	788
Amsterdam-Brussels-Paris - -	931	11	762
Total for 1921 - - -	1,674	39	3,406
Total for 1920 - - -	345	22	6,516

The International Air Traffic Association held its seventh meeting at the Hague on 20th February, 1922. Among the subjects discussed were plans for air traffic during the summer of 1922, wireless communication between aerodromes and between aerodromes and aircraft, and arrangements for night flying.

### LITHUANIA.

A law for the control of civil aviation was approved by the National Assembly in November, and signed on 10th December, 1921. Air traffic within the boundaries of Lithuania and with foreign countries is to be regulated by the Minister of Communications, while the tariff for the transport of mails, passengers, and freight, and other charges connected with air transport, including the registration of aircraft, are to be fixed by the Minister of Transport.

### SCANDINAVIAN STATES.

*Denmark.*—The Danish and Norwegian Governments have formally exchanged ratifications of the Air Convention between the two countries signed in July, 1921.

Owing to the stoppage by ice of steamship communication between Jutland and Zealand, efforts have been made to carry mails by air. For this purpose a regular air mail service was opened on 6th February to connect with the express train to Copenhagen. Five pilots have been employed on this service, and the largest machines carry about 500 lbs. of mails.

Further to relieve the situation caused by the stoppage of sea communications, and also by the railway strike in Germany, the Danske Luftfartselskab opened a temporary air-mail service between Copenhagen and Hamburg on 9th February. In view of the decision of the Danish Government to assist the company by guaranteeing in return for the carriage of mails one-half of any deficit arising from its operation, this service will be re-opened in May.

*Sweden.*—The final draft of the Swedish-Norwegian Air Convention has been laid before the respective Governments concerned.

The regular air service between Porjus and Suorva (Lapland) carried out 125 trips in each direction during 1921 with the object of transporting mails, passengers and goods from the station at Porjus to the water-power works at Suorva.

The Report of the Swedish Aeronautical Commission on Civil Aviation recommends the establishment of three air lines :— (1) Stockholm-Göteborg, with connections to Petrograd and London, to be operated by airship; (2) Stockholm-Malmö, with connections southward to the Continent; (3) Malmö-Göteborg, with a connection to Christiania. Suggestions are also put



forward for a direct airship service between Stockholm, Berlin and Southern Europe. The creation of an Air Office is recommended.

## SPAIN.

The first section of the Spanish air mail system, connecting Seville and Larache, was inaugurated on 15th October, 1921, the concession for operating this service having been granted to the *Compania Española de Trafico Aereo*. In March, 1922, the Company was granted further concessions to establish air services from Madrid to Valencia, Barcelona, Seville and other towns.

## SWITZERLAND.

The following amounts have been allotted for the assistance of civil aviation in 1922 :—5,000 francs for marking customs aerodromes ; 30,000 francs as subsidies to air transport companies for the purchase of modern aircraft ; 30,000 francs for subsidies, on behalf of the Post Office, to all air transport companies operating a mail service ; and 400 francs a month to transport companies for each military pilot employed.

Improvements have been carried out at La Blécherette (Lausanne) customs aerodrome.

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## AMERICA.

### SOUTH AMERICAN STATES.

*Argentina*.—A bi-weekly air service between Buenos Aires and Montevideo was started in December by the River Plate Aviation Company. The total number of passengers carried during the first month of operation was 113, and the service was maintained with marked regularity.

*Brazil*.—The Government has authorised the establishment of two air routes, one for aeroplanes and one for seaplanes, between Rio de Janeiro and Porto Alegre. Although these routes will be controlled by the Ministries of War and Marine respectively, and are primarily intended for the use of military and naval forces, they will be available for civil purposes subject to the consent of the Government and the payment of fees. Both routes will touch the principal commercial centres.

*Colombia*.—A contract has been drawn up between the Colombian Government and the *Sociedad Colombo-Alemana de Transportes Aereos*, whereby the Company will operate a weekly air mail service between Barranquilla and Neiva in return for a small subsidy.

This service, and another between Barranquilla and Cartagena, were in actual operation in January, although at that time the contract still awaited the sanction of the Government.

An air mail service up the Cauca River is in process of organisation.

### UNITED STATES OF AMERICA.

The Bill for the establishment of a Bureau of Civil Aeronautics in the Department of Commerce has been passed by the Senate and is now before a committee of the House of Representatives.

Between October 1920 and October 1921 the machines of the Aeromarine Airways Company, whose services included Key West - Havana, Florida - Bahama Islands, New York - Albany, and New York - Atlantic City, travelled 95,080 miles and carried 7,000 passengers and 24,000 lbs. of mails. During these operations there was no injury to passengers or personnel and, with the exception of four forced landings, the schedule was maintained throughout.

During the period 1st July to 31st January, 1,029,050 miles were traversed by the Post Office air mail services, 25,496,560 letters were carried, and an efficiency of 92.12 per cent. obtained.